TASK 8: Stored Procedures and Function

Step 1: Create a database

```
CREATE DATABASE school_db;

USE school_db;
```

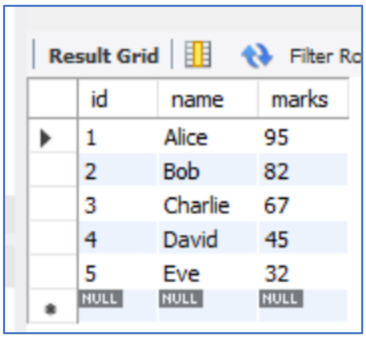
Step 2: Create students table

```
CREATE TABLE students (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(50) NOT NULL,
    marks INT NOT NULL
);
```

Step 3: Insert sample data

```
INSERT INTO students (name, marks) VALUES
('Alice', 95),
('Bob', 82),
('Charlie', 67),
('David', 45),
('Eve', 32);
```

Step 4: Displaying records from the table



id	name	marks
1	Alice	95
2	Bob	82
3	Charlie	67
4	David	45
5	Eve	32
NULL	NULL	NULL

Step 5: Create Stored Procedure (Get students with marks >= min_marks)

```
DELIMITER //

CREATE PROCEDURE GetTopStudents(IN min_marks INT)
```

```
BEGIN
    SELECT id, name, marks
    FROM students
    WHERE marks >= min_marks;
END //

DELIMITER ;
```

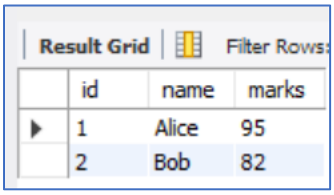
Step 6: Create Function (Get grade based on marks)

```
DELIMITER //
CREATE FUNCTION GetGrade(marks INT)
RETURNS VARCHAR(2)
DETERMINISTIC
BEGIN
    DECLARE grade VARCHAR(2);
    IF marks >= 90 THEN
        SET grade = 'A+';
    ELSEIF marks >= 75 THEN
        SET grade = 'A';
    ELSEIF marks >= 60 THEN
        SET grade = 'B';
    ELSEIF marks >= 40 THEN
        SET grade = 'C';
    ELSE
        SET grade = 'F';
    END IF;

    RETURN grade;
END //

DELIMITER ;
```

Step 7: Demonstrations

1. Call stored procedure (students with >= 70 marks)

CALL GetTopStudents(70);

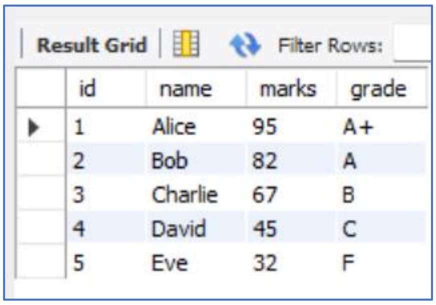


id	name	marks
1	Alice	95
2	Bob	82

2. Use function to get grades for all students

SELECT id, name, marks, GetGrade(marks) AS grade

FROM students;



id	name	marks	grade
1	Alice	95	A+
2	Bob	82	A
3	Charlie	67	B
4	David	45	C
5	Eve	32	F